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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,441	01/25/2002	Ivan Fernandez-Corbaton	010379	9642

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QUALCOMM INCORPORATED
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EXAMINER

ORTIZ RODRIGUEZ, CARLOS R

ART UNIT	PAPER NUMBER
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2125

NOTIFICATION DATE	DELIVERY MODE
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05/18/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
kscanla@qualcomm.com
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Office Action Summary

Application No.

10/057,441

Applicant(s)

FERNANDEZ-CORBATON ET AL.

Examiner

Carlos Ortiz-Rodriguez

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-14, 16-20, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-14, 16-20 and 22-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/27/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. It should be noted that during a telephonic conversation, the Examiner notified Applicants representative of possible 35 U.S.C. 101 rejections regarding independent claims 11-14 and 16, specifically, independent claims 11 and 16. Please refer to the section in this Action labeled "*Claim Rejections - 35 USC § 101*".

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 11-14 and 16 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The preamble of independent claims 11 and 16 recite a system, but when the "analysis means" and the "modeling means" described in the body of the claims are interpreted as software/program elements, it appears reasonable to interpret this recited system as software per se. The "analysis means" and the "modeling means" are being interpreted as software/program elements because Applicant's specification state that the "analysis means" and "modeling means" could be program codes as shown below.

[0031] One skilled in the art will appreciate that the system 100 illustrated in FIG. 2 is a functional block diagram rather than a listing of specific components. For example, although the searcher 116 and signal analyzer 120 are illustrated as two separate blocks within the system 100, they may be in fact embodied in one physical component, such as a digital signal processor (DSP). They may also reside as program codes in the memory 104, such code being

operated on by the CPU 102. The same considerations may apply to other components listed in the system 100 of FIG. 2, such as the timer 124.

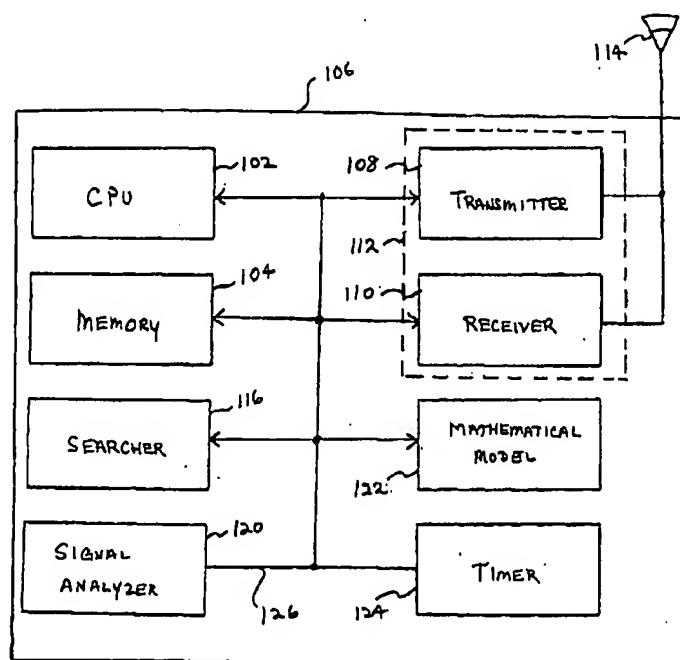


FIG. 2

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-4, 6-14, 16-20 and 22-23 are rejected under 35 U.S.C. 102 (a) as being anticipated by Feiberg et al. EP1089452.

Regarding claims 1-4, 6-14, 16-20 and 22-23, Freiberg et al. discloses a system for determining signal time of arrival in a wireless communication system, comprising: a searcher operable to analyze received signals to determine a correlation signal level at predetermined points in time (Abstract), the searcher determining a maximum signal level at a selected one of the predetermined points in time (Abstract L6); and a modeling processor operable to generate an nth order polynomial, n being greater than two, mathematical model of a predetermined response function using the maximum signal level and correlation signal levels from predetermined points in time adjacent the selected time (Paragraph 0049), the modeling processor using the maximum signal level and correlation signal levels from predetermined points in time adjacent the selected time being used to determine coefficients in the mathematical model (Paragraph 0045-0047); wherein the correlation signal levels are based on received signal strength of the received signals (Paragraph 0015); wherein the coefficients in the mathematical model are used to determine the time associated with a peak value of the mathematical model (Paragraph 0045); wherein the mathematical model is a second order mathematical function with

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three coefficients, the maximum signal level and two correlation signal levels from predetermined points in time adjacent the selected time being used to determine the three coefficients in the mathematical model; wherein the mathematical model is a quadratic function having the form: $y(x) = ax^2 + bx + c$ (Paragraph 0049).

Citation of Pertinent Prior Art

6. The following prior art made of record is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to system and method for wireless signal time of arrival:

- a. U.S. Patent No. 5,276,706 to Critchlow, which discloses system and method for minimizing frequency offsets.
- b. U.S. Patent No. 5,533,067 to Jamal et al., which discloses method and device for estimating transmitted signals.
- c. U.S. Patent No. 5,596,330 to Yokey et al., which discloses differential ranging for a frequency-hopped remote position determination system.
- d. U.S. Patent No. 6,044,105 to Gronemeyer, which discloses Doppler corrected spread spectrum matched filter.
- e. U.S. Patent No. 6,219,345 to Clark et al., which discloses timing estimation in mobile communication systems.
- f. U.S. Patent No. 6,453,237 to Fuchs et al., which discloses method and apparatus for locating and providing services to mobile devices.
- g. U.S. Patent No. 6,487,499 to Fuchs et al., which discloses method for adjusting a pseudo-range model.

The following publications are cited to further show the state of the art with respect to respect to system and method for wireless signal time of arrival:

h. U.S. Pub. No. 2002/0072855 to Fuchs et al., which discloses wide area inverse differential GPS.

i. U.S. Pub. No. 2002/0183069 to Myr, which discloses method and system for mobile station positioning in cellular communication networks.

j. Kim et al., "Time-of-arrival prediction model for transionospheric EMP", 1995 IEEE.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Ortiz-Rodriguez whose telephone number is 571-272-3766.

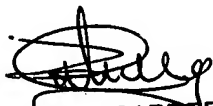
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Carlos Ortiz-Rodriguez
Patent Examiner
Art Unit 2125

May 14, 2007


ZOILA CABRERA
PRIMARY EXAMINER
TECHNOLOGY CENTER 2100
5/14/07